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10/593,424

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Rudolf Ritter

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EXAMINER

PHAN, HAI

ART UNIT

PAPER NUMBER

2614

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/593,424 | Applicant(s) RITTER ET AL. | |
| | Examiner HAI PHAN | Art Unit 2614 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 27-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 27, in line 5, it appears that the term “voice signals” should be “captured voice signals”. In line 9, it appears that the phrase “the at least one first directionally dependent microphone” refers to one of the “plurality of directionally dependent microphones” defined in line 3 (as it originally referred to it before the last amendment); however, it is unclear if it is one of the microphones in the plurality of microphones or some other microphone completely different from this group of microphones. Furthermore, it is not clear if the second directionally dependent microphone (lines 10-11) belong to the “at least one directionally dependent microphone. If that is the case, the phrase “plurality of directionally dependent microphones” defined in line 3, or some other different microphone.

Regarding claims 40 and 53, these claims contain unclear language similar to claim 27 above and are rejected for the same reason.

Regarding claim 29, in lines 2 and 3, claim 30, line 3, claim 31, line 2, and similarly claims 42, 43, and 44, the terms “the voice signal” lacks antecedent basis since in claim 27, only “the voice signals” is being recited.

Regarding claim 29, In line 3, it is unclear which element performs the filtering.3

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 27, 29-34, 37-38 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen) in view of Addeo et al (Patent 5,335,011; hereinafter referred to as Addeo).

Regarding claim 27, Chen discloses a system for acoustical communication comprising an eyeglass frame (Fig. 1) having plurality of directionally dependent

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microphones (microphone arrays 1, 2, 3, 4) to capture voice signals of a user (page 16, lines 10 and 20-23), a communication unit configured to transmit the captured voice signals (8, 9) to external electronic devices (10). Chen fails to teach a control module configured to dynamically adjust the position of at least one directionally dependent microphone based on the voice signals captured by the second directionally dependent microphone. However, Addeo discloses a teleconference system where plurality of self-steering directional microphones are arranged to pick up voice signals from various places in the conference room, which upon detecting the source of sound by at least of those microphones, the microphones are dynamically controlled to steer toward the zone containing the source of sound to form a highly directional beam (col. 3, lines 6-26; col. 4, line 60 to col. 5, line 51). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the dynamic adjusting of microphone's position based on direction of sound as taught by Addeo into the system of Chen's because this would improve audio quality by reducing ambient noise (Addeo's col. 5, lines 47-50).

Regarding claim 29, Chen further disclose a third microphone for capturing ambient noise (page 6, lines 15-16; Fig. 2, mini-microphones 101, 102), the signal captured by the first microphone is filtered by filter (Fig. 2, elements 110A, 110B), and the signal received from the first microphone is improved by the ambient noise received from the third microphone (via active noise control circuits 107A and 107B of Fig. 2).

Regarding claim 30, Chen further discloses (in Fig. 6) an amplifier (601 or 606) controllable by the signal captured by a third microphone (101).

Regarding claim 31, Chen further discloses that the signal captured by the microphone is processable based on reference filters (LPF as part of 112 in Fig. 2 and/or filter process of filters 110A and 110B; see also page 21, lines 14-16 and 25-16).

Regarding claim 32, Chen further discloses that the at least one directionally dependent microphone is implemented as at least one microphone array (microphone array 15 of Fig. 2; see 10, line 20).

Regarding claim 33, Chen further discloses that the microphone array is implemented in MEMS technology (page 15, lines 1-4).

Regarding claim 34, Chen further discloses that the external devices could be one of the various mobile devices including phone, radio, CD player, etc (page 25, lines 2-4).

Regarding claims 37-38, the combination Chen and Addeo fails to teach the speech recognition module for capturing spoken commands and the Bluetooth, or ZigBee, GSM, or UMTS interfaces. However, the Examiner takes Official Notice that speech recognition module for capturing spoken commands and the various claimed communications interfaces are very well-known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the speech recognition module into the combined system of Chen and Addeo's so that certain functions can be conveniently carried out without physical manipulation, and to utilize one of the well-known interfaces into the system of Chen and Addeo's depending on the network and/or device the system is to be connected so that compatibility can be achieved.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo as applied to claims 27, 29-34, 37-38 and 53 above, and further in view of Gollmar et al (Patent 4,901,354).

Regarding claim 28, the combination of Chen and Addeo fails to teach that the second directionally dependent microphone is a contact microphone. However, Gollmar et al disclose a device for improving voice detection having main microphone for measuring voice, microphone for measuring ambient noise, and a contact microphone for reliably detecting voice in combination with the main voice microphone (col. 2, lines 3-8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the contact microphone as taught by Gollmar et al into the combined system of Chen and Addeo's so that voice sound can be correctly identified even in high ambient noise environment.

7. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo as applied to claims 27, 29-34, 37-38 and 53 above, and further in view of Butler et al (Patent US 6,474,816).

Regarding claim 35, the combination of Chen and Addeo fails to teach the eyeglass frame comprises means for retinal scanning display. However, Butler et al teach an integrated retinal display mounted on the eyeglasses comprising means for retinal scanning display (see Fig. 1; col. 2, lines 23-34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to

incorporate the means for retinal scanning display as taught by Butler et al into the combined system of Chen and Addeo's because this would allow the user to be able to view video display along with voice communication via a eyeglasses; thus avoiding additional external display device.

8. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo and Butler et al as applied to claim 35 above, and further in view of Nestorovic et al (Pub No. US 2004/0155186).

The combination of Chen, Addeo and Butler et al fails to teach a direction module which is configured to capture a direction of view. However, Nestorovic et al teach a direction module for capturing a direction of view used in the retinal scanning display (gaze tracker for detecting the gaze direction of the viewer so the image information is produced in response to the determined viewing direction; para 0031, claim 61, claim 77). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the direction module for capturing a direction of view as taught by Nestorovic et al into the combined system of Chen, Addeo and Butler et al's so that desired image can be provided in accordance with the user's direction of view.

9. Claim 39-40, 42-47 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo as applied to claims 27, 29-34, 37-38 and 53 above, and further in view in view of Warren (Patent 7,013,009).

Regarding claim 39, the combination of Chen and Addeo fails to teach the photovoltaic cells for a power supply. However, Warren teach an eyeglasses with wireless communication features mounted thereon where photovoltaic cells is used as power supply (col. 5, lines 32-33). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use photovoltaic cells for a power supply as taught by Warren as a power source for Chen and Addeo's system because this conventional battery is well-known in the art for use in electronic devices and is readily available in the market.

Regarding claims 40 and 42-47, Chen and Addeo's system as discussed in rejecting claims 27 and 29-34 above fully support the steps and functions of these method claims except that Chen uses a wired interface rather than the wireless interface for communicating with the external device. However, Warren teaches a wireless communication interface between the circuitry on the eyeglasses frame to the external device (see Fig. 1 and abstract, lines 1-4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute wired communication of Chen and Addeo's system with wireless interface of Warren's because wireless communication eliminates the messy wire(s) required by the wired communication.

Regarding claim 51, the combined method of Chen, Addeo and Warren's further discloses Bluetooth interface for transmitting captured signals to the external device (col. 4, lines 65).

Regarding claim 52, the combined method of Chen, Addeo and Warren's further discloses photovoltaic cells is used as power supply (see Warren's col. 5, lines 32-33).

Regarding claim 50, the combination of Chen, Addeo and Warren's fails to teach the capturing of spoken commands by a speech recognition module and the Bluetooth. However, the Examiner takes Official Notice that speech recognition module for capturing spoken commands is very well-known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the capturing spoken commands by speech recognition module into the combined method of Chen, Addeo and Warren's so that certain functions can be conveniently carried out without physical manipulation.

10. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo and Warren as applied to claim 40 above, and further in view of Gollmar et al (Patent 4,901,354)

Regarding claim 41, the combination of Chen, Addeo and Warren fails to teach that the second directionally dependent microphone is a contact microphone. However, Gollmar et al disclose a device for improving voice detection having main microphone for measuring voice, microphone for measuring ambient noise, and a contact microphone for reliably detecting voice in combination with the main voice microphone (col. 2, lines 3-8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the contact microphone as

taught by Gollmar et al into the combined method of Chen, Addeo and Warren's so that voice sound can be correctly identified even in high ambient noise environment.

11. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo and Warren as applied to claim 40 above, and further in view of Butler et al (Patent US 6,474,816).

Regarding claim 48, the combination of Chen, Addeo and Warren fails to teach wherein the user has image data projected onto the retina using a retinal scanning display. However, Butler et al teach an integrated retinal display mounted on the eyeglasses comprising means for retinal scanning display (see Fig. 1; col. 2, lines 23-34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the means for retinal scanning display as taught by Butler et al into the combined method of Chen, Addeo and Warren's because this would allow the user to be able to view video display along with voice communication via a eyeglasses; thus avoiding additional external display device.

12. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Addeo, Warren and Butler et al as applied to claim 48 above, and further in view of Nestorovic et al (Pub No. US 2004/0155186).

Regarding claim 49, the combination of Chen, Addeo, Warren and Butler et al fails to teach wherein a direction of view of the user is captured by a module. However, Nestorovic et al teach capturing a direction of view used in the retinal scanning display

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(gaze tracker for detecting the gaze direction of the viewer so the image information is produced in response to the determined viewing direction; para 0031, claim 61, claim 77). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the capturing a direction of view as taught by Nestorovic et al into the combined method of Chen, Addeo, Warren and Butler et al's so that desired image can be provided in accordance with the user's direction of view.

Response to Arguments

13. Applicant's arguments with respect to claims 27-53 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Phan whose telephone number is (571) 272-6338. The examiner can normally be reached on Monday-Friday (9:00AM-5:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614

/Hai Phan/
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